

## **MICRO-CHANNEL CHEMICAL CONCENTRATOR**

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### **ABSTRACT OF THE DISCLOSURE**

Apparatus and method for increasing the concentration of a chemical substance in a fluid comprise a micro-fluidic elongated channel formed in a substrate, with the channel being in fluid-flow communication with an ambient region along its elongated dimension. In general, the fluid includes first and second chemical substances having different vapor pressures. The apparatus includes an evaporation controller for increasing the evaporation rate of the fluid from the channel into the ambient region, thereby increasing the concentration of the higher vapor pressure (HVP) substance in the portion of the fluid remaining in the channel and increasing the concentration of the lower vapor pressure (LVP) substance in the portion of the fluid evaporated into the ambient region.